Abstract of the Disclosure

A method for adapting a computer-to-computer communication protocol, and especially TCP/IP, or any protocol implemented in a general purpose off-the-shelf network like Ethernet, for use in providing communication needed in an industrial control system, and especially an industrial control system using a programmable logic controller (PLC), where there is frequent communication between the PLC and control or monitoring elements, the method aimed at allowing the PLC to perform scanning of its ladder logic at a rate adequate for effective industrial control. The method includes making permanent-type TCP connections between the PLC and a control element or a monitoring element, use of a protocol for communication with a control or monitoring element in which both a read register and a write register instruction is included in a single communication transaction, such as a MODBUS command, and tuning communication between the PLC and a control element or a monitoring element.